J Clin Exp Ophthalmol 2018, Volume 9
DOI: 10.4172/2155-9570-C6-094

Short-term outcomes of near-infrared photo-biomodulation for permanent diabetic macular edema

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Purpose: To assess the efficacy of photo-biomodulation with near-infrared radiation for treatment of permanent macular edema in diabetic patients.

Methods: 12 eyes of 10 patients with permanent macular edema were included in this study. All patients underwent slit lamp examination and assessment of visual acuity, intraocular pressure, and optical coherence tomography (SD-OCT). Photo-biomodulation was performed using portable device (Warp 10, Quantum device) and applied near to the eye for 300s daily for twice monthly. Patients were re-assessed 1, 2 and 4 months after treatment.

Results: The mean visual acuity was 0.45±0.29 Snellen and the mean acuity at four months following treatment was 0.66±0.34, VA and increased by 1.85±1.2 Snellen lines (P<0.001). The mean central macula thickness was 537 μm primarily and decreased to 520 μm after treatment (P=0.015). No adverse events were observed, including blurred vision, inflammation and increased intraocular pressure or increased macular edema in any patient.

Conclusion: Photo-biomodulation resulted in a decrease in macular thickness and improvement in visual acuity in patients with permanent macular edema which they have no invasive and expensive treatment.

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